first of which, nearest the body, is called the *coxa*, with which articulates a ring-like piece known as the *trochanter*. To this is attached the *femur*, and united with the femur, forming an angle with it, is the *tibia*. To the tibia is attached the *tarsus*, or foot, the last segment of which bears the claws, which are often very minute and blunt in the butterflies, though in moths they are sometimes strongly hooked. The tibiae are often armed with spines. In some groups of butterflies the anterior pair of legs is aborted, or dwarfed, either in one or both sexes, a fact which is useful in determining the location of species in their systematic order.

The Wings.— The wings of butterflies consist of a framework of horny tubes which are in reality double, the inner tube being

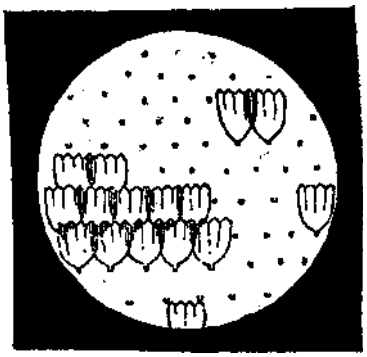

FIG. 36.—Magnified representation of arrangement of the scales on the wing of a butterfly.

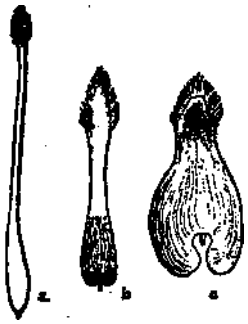

FIG. 37.—Androconia from wings of male butterflies: *a*, *Neonympha eurytus*; *b*, *Argynnis aphrodite*; *c*, *Pieris oleracea*.

filled with air, the outer tube with blood, which circulates most freely during the time that the insect is undergoing the process of development after emergence from the chrysalis, as has been already described. After emergence the circulation of the blood in the outer portion of the tubes is largely, if not altogether, suspended. These horny tubes support a broad membrane, which is clothed in most species upon both sides with flattened scales which are attached to the membrane in such a way that they overlap one

another like the shingles on a roof. These scales are very beautiful objects when examined under a microscope, and there is considerable diversity in their form as well as in their colors. The